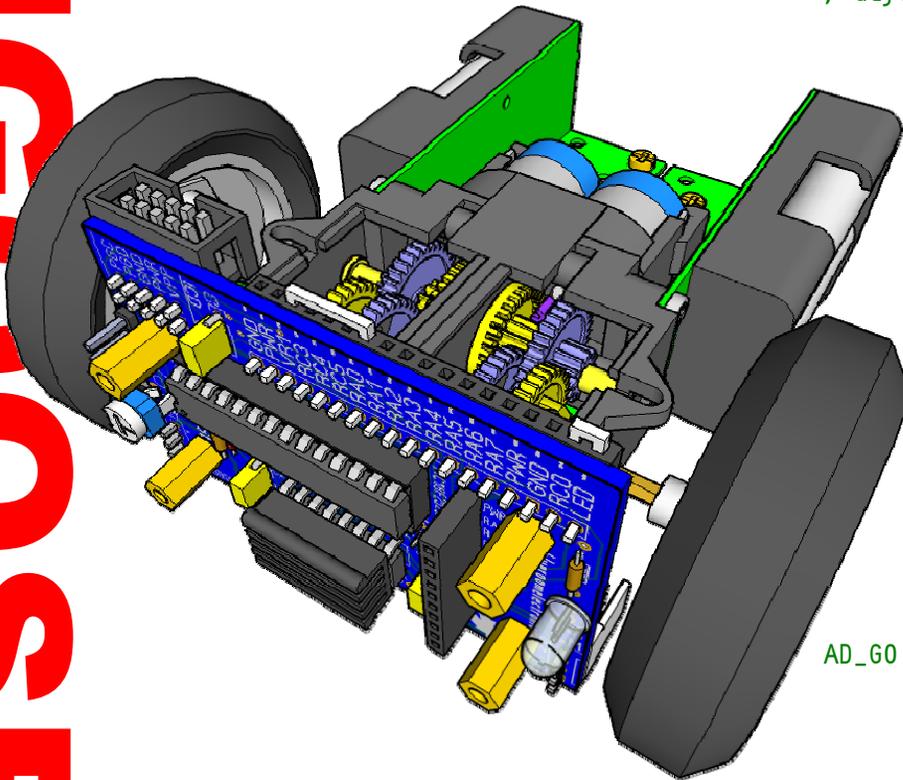


MONGOOSE

The Mongoose Mechatronics Chassis is an Advanced Robotics Platform that Includes

- An Advanced PIC18F2525 Microcontroller programmable in C, BASIC & Assembler
- Dual Hardware PWM Speed Control, Quad Half Bridge Motor Driver
- In Circuit Programming and Hardware Debugging via Required ICD* (not included)
- Dual Optical Rotation Sensors, Trimpot & forward facing White LED Headlight
- Expandable, lots of free I/O & A/D, Dedicated Hardware ESUART I/O Connector
- Top & Front Mounted I/O & LCD Connectors & Front Mounted User PCB Standoffs
- High Quality Aluminum Chassis, Requires 4xAA NiMH Batteries (not included)
- Only 120mm x 115mm x 57mm

www.bluroomelectronics.com



```
; Mongoose PWM motor speed demo, right motor set with VR1
; place a small jumper wire between VR1 and RA0
; adjust VR1 so that Mongoose drives in a straight line
list      p=18F2525
include <p18F2525.inc>
CONFIG   OSC = INTI067, PBADEN = OFF
CONFIG   WDT = OFF, LVP = OFF, DEBUG = ON
org      0
bsf      ADCON0,ADON      ; enable A/D converter
clrf     LATB
movlw   0xF0              ; RB0-3 motor direction
movwf   TRISB             ; RB4,5 opto-sensor inputs
movlw   b'11111001'      ; CCP1&2 PWM outputs
movwf   TRISC             ; direct to H-Bridge EN
movlw   0x0F
movwf   ADCON1            ; use AD RC Oscillator
movwf   CCP1CON           ; PWM mode
movwf   CCP2CON           ; frequency 976.5Hz
setf    PR2               ; PR2 = 255
movlw   0x80              ; 50% PWM
movwf   CCPR1L            ; left motor speed
movwf   CCPR2L            ; right motor speed
movlw   b'00000011'      ; set L/R motor direction
movwf   LATB             ; both forward (RB0-3)
bsf     T2CON,TMR2ON      ; enable TIMER2
AD_GO   bsf      ADCON0,GO  ; start conversion
        btfsc   ADCON0,GO  ; wait for conversion
        bra     $-2         ; to complete
        movff  ADRESH, CCPR1L ; copy AD to PWM (duty)
        bra     AD_GO       ; repeat forever (loop)
END
```

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The Mongoose requires an external PIC programmer (ICD) such as the Inchworm (RS232) or Junebug (USB)
You can download full color manuals for Mongoose and all bluroomelectronics kits at <http://www.bluroomelectronics.com>